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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/273,256	03/22/1999	KENJI SUZUKI	PMS-258709	6889

909 7590 10/07/2003

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EXAMINER

CRAIG, DWIN M

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 10/07/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/273,256

Applicant(s)

SUZUKI ET AL.

Examiner

Dwin M Craig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7-14-03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 1-21 have been presented for reconsideration in light of Applicant's Affidavit.

Claims 1-21 have been examined and rejected.

Response to Amendment

2. The affidavit filed on 7-14-2003 under 37 CFR 1.131 has been considered but is ineffective to overcome the Fishman U.S. Patent 6,112,133 and Yamazaki et al. U.S. Patent 6,401,004 references.

2.1 The evidence submitted is insufficient to establish diligence from a date prior to the date of reduction to practice of the Fishman U.S. Patent 6,112,133 or the Yamazaki et al. U.S. Patent 6,401,004 references to either a constructive reduction to practice or an actual reduction to practice. Applicant has failed to map the limitations in the prior art references that were used in the Examiners rejections to the limitations disclosed in Exhibit C of paper number 11.

2.2 The affidavit filed on 7-14-2003 has been considered ineffective in that not all of the inventors on the original patent application have signed Exhibit A of paper #11. (*see MPEP 715.04*).

MPEP 715.04 Who May Make Affidavit or Declaration; Formal Requirements of Affidavits and Declarations

WHO MAY MAKE AFFIDAVIT OR DECLARATION

The following parties may make an affidavit or declaration under 7 CFR 1.131:

(A) All the inventors of the subject matter claimed.

(B) An affidavit or declaration by less than all named inventors of an application is accepted where it is shown that less than all named inventors of an application invented the subject matter of the claim or claims under rejection. For example, one of two joint inventors is accepted where it is shown that one of the joint inventors is the sole inventor of the claim or claims under rejection.

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(C) A party qualified under 37 CFR 1.42, 1.43, or 1.47 in situation where some or all of the inventors are not available or not capable of joining in the filing of the application.

(D) The assignee or other party in interest when it is not possible to produce the affidavit or declaration of the inventor. Ex parte Foster, 1903 C.D. 213, 105 O.G. 261 (Comm'r Pat. 1903).

The Examiner asserts that the Applicant's have failed to have all of the inventors sign the affidavit; specifically the inventor *Kenji Suzuki* has not signed the affidavit, (*see Exhibit A paper # 11.*)

Claim Rejections - 35 USC § 103

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-9, 13-17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fishman U.S. Patent 6,112,133** in view of **Kahn et al. U.S. Patent 4,866,635**.

3.1 As regards **Claims 1 and 21** these claims are almost identical, except that **Claim 1** is for an apparatus and **Claim 21** is for a method.

3.2 As regards **Claims 1 and 21** the *Fishman* reference teaches about a visual system for generating a CNC program for machining a part by an operator (aiding a machinist in preparing a programmed machine for a machining process) using an interface module (**Col. 3, lines 24-26, Figure 6, Col. 5, lines 19-22**). This program is prepared by inputting part information (machining variables) into a computer system (graphical user interface system) (**Col. 3, lines 60-65**), which is equivalent to the section of the claim concerning running a basic program "for setting values of various machining variables based on information input by the machinist". This part machining information is analyzed (analyzing means) by a process optimization module to optimize the efficiency of machining the part (**Col 6, lines 59-65**). One facet of the Fishman patent that is particularly pertinent to this application is that the process optimization module uses a material machinability database containing recommended material removal speeds as a function of tool parameters. This machinability optimization analysis can be presented to the operator (notify the machinist) to recommend or advise the operator about the current efficiency or how to improve his machining process (**Figure 10**). This chart discloses an increase in machining speed per a selected drill tool diameter for work piece material type (High Speed Steel). The operator could stay with or modify his current machining variable selection to decrease machining time (increases in feet per minute) (**Col. 7, lines 14-19**).

The *Fishman* reference does not expressly disclose an advisory message to a machinist; after all the input is completed. The *Fishman* reference does disclose, the main output from Fishman to the machinist is a default machining program containing a sequence of operations which the machinist may change if he so desires.

The *Kahn et al.* reference discloses an expert system for selecting the best repair procedure among a plurality of repair procedures. The output of the system is a recommendation (notification) that selects the optimum procedure for the given input diagnostics.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the Fishman reference with the *Kahn et al.* reference because (*motivation to combine*) combining the output from *Fishman* with the recommendation (notification) system of *Kahn et al.* in order that the output from *Fishman* would be presented as an advisory message instead of a machining program. It would be obvious that the program displayed by the *Fishman* reference is based upon the optimization program (analysis means).

3.3 As regards **Claim 13** the *Fishman* reference discloses a computer visual system for generating a CNC program for machining a part by an operator using an interface module (**Figure 6, Col. 3 Lines 24-26, Col. 5 Lines 19-22**). The program is prepared by the machinist inputting part information into a computer system (**Col. 3 Lines 60-65**), displaying the tool path and other information (**Col. 6 Lines 53-55**), a process optimization module, (**Col. 6 Lines 59-65**). The machinability optimization analysis can be presented to the operator to recommend or advise the operator about the efficiency or how to improve his machining process (**Figure 10**).

The *Fishman* reference does not expressly disclose an advisory message to the machinist wherein the machinist may change an operating parameter if he so desires.

The *Kahn et al.* reference discloses an advisory message displayed to a machinist wherein the machinist may change an operating parameter if he so desires (**Col. 14 Lines 66-67, Col. 15 Lines 1-5, Col. 21 Lines 5-11**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Fishman* reference with the *Kahn et al.* reference because (*motivation to combine*) the *Kahn et al.* reference teaches a method to interact with the user to solve problems and properly diagnose the observed problems (*Kahn et al. Col. 4 Lines 11-16*).

3.4 As regards **Claims 2 and 14**, the *Fishman* reference teaches machinability optimization analysis which can be presented to the operator to recommend or advise the operator about the current efficiency or how to improve his machining process (**Figure 10, Col. 7 Lines 14-19**).

The *Fishman* reference does not expressly disclose, sending an advisory message.

The *Kahn et al.* reference discloses an advisory message displayed to a machinist wherein the machinist may change an operating parameter if he so desires (**Col. 14 Lines 66-67, Col. 15 Lines 1-5, Col. 21 Lines 5-11**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Fishman* reference with the *Kahn et al.* reference because (*motivation to combine*) the *Kahn et al.* reference teaches a method to interact with the user to solve problems and properly diagnose the observed problems (*Kahn et al. Col. 4 Lines 11-16*).

3.5 As regards **Claims 3 and 4**, the *Fishman* reference teaches about the machinability optimization module or analysis which can be presented to the operator on a visual display to recommend or advise the operator about the current efficiency or how to improve his

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machining process (**See Figure 10**). This chart discloses or notifies the operator of a plurality of "messages" in chart format of machine variable parameters from its computer memory from its analysis of machining speed per a selected drill tool diameter for the work piece material type (High Speed Steel) (**Col. 7, lines 14-19**).

The *Fishman* reference does not expressly disclose sending messages to a machinist; after all the input is completed, the main output from Fishman to the machinist is a default machining program containing a sequence of operations which the machinist may change if he so desires.

The *Kahn et al.* reference discloses an expert system for selecting the best repair procedure among a plurality of repair procedures. The output of the system is a recommendation (notification or displayed message) that selects the optimum procedure for the given input diagnostics. Kahn et al teaches also teaches about notes that are entered into memory to be used as output messages (**Col. 14 Line 66-67 and Col. 15 lines 1-5**) and messages that are to be displayed in response to analysis of input data (**Col. 21 lines 5-11**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Fishman* reference with the *Kahn et al.* reference because (*motivation to combine*) the *Kahn et al.* reference teaches a method to interact with the user to solve problems and properly diagnose the observed problems (***Kahn et al. Col. 4 Lines 11-16***).

3.6 As regards **Claim 5** the *Fishman* reference discloses using an interface module or input device for setting machining variable values for its particular machining process, i.e., part face information which includes boundary, orientation, hole diameter and depth, and machining function to machine the part, (**Figure 8, Col. 5 lines 19-30, Col. 6 lines 1-5**). Once all this part

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face information is inputted into the system it is transferred to the process optimization module (analyzing means) for analysis (**Column 6 line 60**).

3.7 As regards **Claim 6** the *Fishman* reference discloses an optimization software program or a simulation program that analyzes machining process data from information transferred or executed from the interface module (**Col 6 Lines 53-63**).

3.8 As regards **Claims 7 and 15** the *Fishman* reference discloses the optimization modules' material machinability database which does analyze (analyzing means) or select the material cutting speeds and feed rate (rate of depth of cut) based on the face information supplied by the interface module (**Figure 1c, 7A, 7B, 7C, 8, 10, 11, 12, Col. 3 Lines 38-67, Col. 4 Lines 1-5**).

3.9 As regards **Claims 8 and 16** the *Fishman* reference discloses Fishman the optimization modules' material machinability database which does analyze (analyzing means) or select the material's recommended cutting speeds from the specified face information supplied by the interface module. The operator can be notified by customized charts about the efficiency of the variable relationships for subsequent modification (**Col. 7 Lines 5-15**).

3.10 As regards **Claims 9 and 17** the *Fishman* reference does disclose analyzing or selecting a recommended or an optimal spindle rotating speed during cutting operation (**Figure 11, Col. 7 Lines 5-34**).

4. **Claims 10, 11, 12, 18, 19 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fishman U.S. Patent 6,112,133** in view of **Cameron et al. U.S. Patent 5,412,583**.

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4.1 As regards independent **Claims 1, 13, and 21** see the rejections in paragraph 3 above.

4.2 As regards **Claims 10, 12, 18 and 20** the *Fishman* reference does not expressly disclose an advisory message to the machinist to increase the speed of the cutting tool.

The *Cameron et al.* reference discloses an advisory message to the machinist (**Figure 11, Col. 4, Lines 56-58**) and a message to change the speed (**Figure 9, Col. 4 Lines 59-54, Col. 2 Lines 64-67**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Fishman* reference with the *Cameron et al.* reference because (*motivation to combine*) by prompting the user the machine tool being used can be operated in the most efficient manner (*Cameron et al. Col. 2 Lines 64-67, Col. 3 Lines 1-2*).

4.3 As regards **Claims 11 and 19** the *Fishman* reference discloses changing tools (**Figure 3a, Figure 5 Item 30, Col. 7 Lines 50-67**).

The *Fishman* reference does not expressly disclose sending the message to the operator to change the tool.

The *Cameron et al.* reference discloses an advisory message to the machinist (**Figure 11, Col. 4, Lines 56-58**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Fishman* reference with the *Cameron et al.* reference because (*motivation to combine*) by prompting the user the machine tool being used can be operated in the most efficient manner (*Cameron et al. Col. 2 Lines 64-67, Col. 3 Lines 1-2*).

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5. **Claims 1, 13 and 21** are being rejected under 35 U.S.C. 103(a) as being unpatentable over **Yamazaki et al. U.S. Patent 6,401,004** in view of **Cameron et al. U.S. Patent 5,412,583**.

5.1 As regards **Claims 1, 13 and 21** the *Yamazaki et al.* reference discloses an apparatus (**Figure 2 Item 25**) for aiding a machinist in preparing a programmed machine for a machining process (**Figures 2**) with a basic program (**Figure 4A, 4B, 4C**), with information stored in a tool data memory (**Figure 1 Item 6, Figure 2 Item 23**), a computer for executing a basic program to obtain values of various machining variables (**Figures 1, 2, 3**), an analyzing means for analyzing the variable values obtained during execution of the basic program to determine the efficiency of the machining process (**Figure 16 Lines 1-7**).

The *Yamazaki et al.* reference does not expressly disclose an advisory message to the machinist.

The *Cameron et al.* reference discloses an advisory message to the machinist (**Figure 11, Col. 4, Lines 56-58**).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have modified the *Fishman* reference with the *Cameron et al.* reference because (*motivation to combine*) by prompting the user the machine tool being used can be operated in the most efficient manner (*Cameron et al. Col. 2 Lines 64-67, Col. 3 Lines 1-2*).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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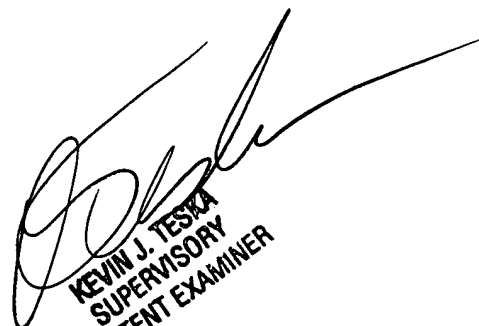
6.1 A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6.2 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwain M Craig whose telephone number is 703 305-7150. The examiner can normally be reached on 9:00 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on 703 305-9704. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-3900.

DMC
October 6, 2003



KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER